AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for the enantioselective preparation of sulfoxides derivatives or basic salts thereof[[,]] comprising:
~~characterized in that an~~

(a) enantioselective oxidation of a sulphide of the following general formula (I)

$A - CH_2 - S - B$ (I)

wherein

A is a diversely substituted pyridyl nucleus and

B a heterocyclic residue comprising a benzimidazole or a imidazo-pyridyl nucleus, ~~is performed~~ using an oxidizing agent in the presence of a tungsten- or vanadium-based catalyst and of a chiral ligand[[,]] ; ~~followed if necessary by a~~

(b) optionally salification by a base, in order to obtain the sulfoxide $A - CH_2 - SO - B$ (Ia).

2. (Currently Amended) A method according to claim 1, ~~characterized in that~~ wherein, in general formula (I), A is a pyridyl group or a pyridyl group bearing one or more substituents selected from the linear or branched alkyl groups of 1 to 6 carbon atoms, linear or branched alkoxy groups of 1 to 6 carbon atoms, methyl or ethyl groups substituted by one or several halogen atoms, amino, alkylamino or dialkylamino groups where the alkyl moiety, whether linear or branched, comprises 1 to 5 carbon atoms ; B represents a heterocycle selected from the benzimidazole or imidazo-[4,5-b]-pyridyl groups, optionally substituted ~~if necessary~~ by one or several linear or branched alkyl groups of 1 to 6 carbon atoms, linear or branched alkoxy groups of 1 to 6 carbon atoms.

3. (Currently Amended) A method according to claim 2, ~~characterized in that~~ wherein the A and B groups are substituted on one or several carbon atoms by a methyl, ethyl, methoxy or trihalogenomethyl group.

4. (Currently Amended) A method according to claim 3, ~~characterized in that~~ wherein A is a 2-pyridyl group substituted by one or several methyl, ethyl, methoxy or trifluoromethyl groups.

5. (Currently Amended) A method according to ~~any of claims 3 and 4, characterized in that~~ claim 3, wherein A is a 4-methoxy-3,5-dimethyl-2-pyridyl group and B is a 5-methoxy-1H-benzimidazolyl or 5-methoxy-imidazo-[4,5-b]-pyridyl group.

6. (Currently Amended) A method acccording to ~~any of the preceding claims, characterized in that~~ claim 1, wherein the obtained enantiomer is salified by reaction with basic mineral reagents comprising alcaline or earth-alcaline counter ions.

7. (Original) A method according to claim 6, wherein the salt is a sodium, potassium, lithium, magnesium or calcium salt.

8. (Currently Amended) A method according to ~~any of claims 1 to 7~~,claim 1 wherein the ~~oxidant~~ oxidizing agent is a peroxide or a hydroperoxide.

9. (Currently Amended) A method according to claim 8, wherein the ~~oxidant~~ oxidizing agent is hydrogen peroxide, urea-H_2O_2 (UHP) or cumene or tertiobutyl hydroperoxide.

10. (Currently Amended) A method according to ~~any of claims 1 to 9~~ claim 1, wherein the catalyst is a (V) oxo-vanadium complex or a derivative of tungsten.

11. (Original) A method according to claim 10, wherein the complex or the derivative is prepared from tungsten trioxide, vanadium acetylacetonate, or vanadium sulphate.

12. (Currently Amended) A method according to ~~any of claims 1 to 11, characterized in that~~ claim 1, wherein the catalyst is vanadium based and the ligand is tridentate.

13. (Currently Amended) A method according to ~~any of claims 1 to 12, characterized in that~~ claim 1, wherein the ligand is represented by the following general formula (II) :

$$RO\text{-}CR_1R_2\text{-}CR_3R_4\text{-}NR_5R_6$$

where

R is a hydrogen atom or a linear or branched alkyl group of 1 to 6 carbon atoms or an aryl or heteroaryl group;

$\mathbf{R_1}$ to $\mathbf{R_4}$, which can be the same or different, represent a linear or branched alkyl group of 1 to 6 carbon atoms, ~~possibly~~ optionally comprising a heteroatom ~~such as~~ selected from sulphur, nitrogen and oxygen ~~and/or~~ and optionally substituted by an amino group ; an aryl group ; an alkylaryl group ; an alkoxycarbonyl group ; a heteroaryl group or a heterocyle ; a heteroarylalkyl or a heterocyclalkyl group,

with the proviso that R_1 should not be identical with R_2, and/or R_3 should not be identical with R_4, so that the ligand comprises one, or two asymmetry centers;

$\mathbf{R_1}$ and $\mathbf{R_2}$ together can represent a carbonyl group C=O;

$\mathbf{R_1}$ and $\mathbf{R_3}$, or $\mathbf{R_2}$ and $\mathbf{R_4}$ together, can form a carbon ring having 5 or 6 carbon atoms or a bicyclic system with 9 or 10 carbon atoms where one of the cycles can be aromatic ;

$\mathbf{R_4}$ and $\mathbf{R_5}$, which can be the same or different, can form a 5- or 6-membered heterocycle with the nitrogen atom ;

$\mathbf{R_5}$ and $\mathbf{R_6}$, which can be the same or different, represent a linear or branched alkyl group of 1 to 6 carbon atoms or a 5 or 6-membered carbon ring, or form a heterocycle with the nitrogen atom to which they are bound, or

$\mathbf{R_5}$ and $\mathbf{R_6}$ represent, together with the nitrogen, a -N=CHAr double bond where **Ar** is a aryl residue, ~~possibly~~ optionally substituted by 1 to 3 groups~~, and preferably bearing a hydroxyl group~~.

14. (Currently Amended) A method according to claim 13, ~~characterized in that~~ wherein **Ar** is a 2'-hydroxyphenyl group ~~possibly~~ optionally substituted on the aryl group.

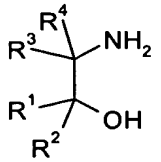
15. (Currently Amended) A method according to ~~claims 13 or 14, characterized in that~~ claim 13, wherein:

$\mathbf{R_1}$ and $\mathbf{R_3}$[[,]] or $\mathbf{R_2}$ and $\mathbf{R_4}$[[,]] represent an hydrogen atom, whereas $\mathbf{R_2}$ and $\mathbf{R_4}$[[,]] or $\mathbf{R_1}$ and $\mathbf{R_3}$, respectively, are linear or branched alkyl groups of 1 to 6 carbon atoms, a aryl group or form together a carbon ring having 5 or 6 carbon atoms or a bicyclic system with 9 or 10 carbon atoms where one of the cycles can be aromatic.

16. (Currently Amended) A method according to ~~any of claims 13 to 15, characterized in that~~ claim 13, wherein the aryl group is selected from ~~the~~ a phenyl group, ~~the~~ a naphtyl group, ~~the~~ a tetrahydronaphtyl group, ~~the~~ an indanyl group and ~~the~~ a binaphtyl group, where the aryl group can be substituted by 1 to 3 substituents selected from a hydroxyl group, a linear or branched alkyl group comprising 1 to 4 carbon atoms, a nitro group, a (C_1-C_4)alkoxy group and a halogen atom.

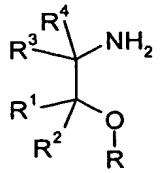
17. (Currently Amended) A method according to ~~any of claims 13 to 16, characterized in that~~ claim 13, wherein the ligand of formula (II) is alternatively derived from:

- an amino-~~alcool~~ alcohol of formula (III)

(III) 

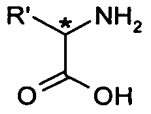
wherein $\mathbf{R_1}$, $\mathbf{R_2}$, $\mathbf{R_3}$ and $\mathbf{R_4}$ are as defined in ~~any of claims 13 to 16~~ claim 13,

- an amino-ether of formula (IV)

(IV) 

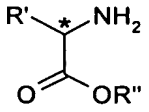
wherein **R**, $\mathbf{R_1}$, $\mathbf{R_2}$, $\mathbf{R_3}$ and $\mathbf{R_4}$ are as defined in ~~any of claims 13 to 16~~ claim 13,

- an amino acid of formula (V)

(V) 

wherein **R'** takes the definition of R_3 or R_4 according to ~~any of claims 13 to 16~~ claim 13 or,

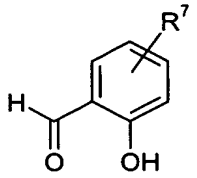
- an amino-ester of formula (VI)

(VI) 

wherein **R'** takes the definition of R_3 or R_4 according to ~~anyone of claims 13 to 16~~ claim 13 and **R''** takes the definition of R according to ~~any of claims 13 to 16~~ claim 13.

18. (Currently Amended) A method according to claim 17, ~~characterised in that~~ wherein the amino-alcohol of formulae (III) is selected from L- or D-valinol, *R-tert*-leucinol, *S-tert*-leucinol and (1*S*,2*R*)-(-)- or (1*R*,2*S*)-(+)-1-amino-2-indanol and ~~in that~~ the amino acid of formulae (V) is selected from L-valine or D-valine, L-phenylalanine or D-phenylalanine, L-methionine or D-methionine, L-histidine or D-histidine, L-lysine or D-lysine.

19. (Currently Amended) A method according to ~~any of claims 13 to 18, characterized in that~~ claim 17, wherein the ligand of formula (II) is obtained by reacting an amino-alcohol, an amino-ether, an amino acid or an amino-ester of formulae (III), (IV), (V) and (VI), respectively, as defined in ~~claims 17 or 18~~ claim 17 with an aldehyde of salicylic acid, of formula (VII)

 (VII)

wherein $\mathbf{R_7}$ represents 1 to 2 substituents ~~chosen~~ independently ~~ones of the others among~~ selected from an hydroxyl group, a linear or branched alkyl group containing from 1 to 4 carbon atoms, a nitro group, a $(C_1$-$C_4)$alkoxy group and a halogen atom.

20. (Currently Amended) A method according to ~~any of claims 13 to 19, characterized in that~~ claim 17, wherein a catalyst prepared from vanadium acetylacetonate and a ligand derived from an amino-[alcool] alcohol or an amino-ether respectively of formulae (III) or (IV) as defined in claim 17 ~~or 18~~, are used.

21. (Currently Amended) A method according to claim 20, ~~characterized in that~~ wherein the ligand of formula (II) is derived from an amino-alcohol of formula (III) as defined in claim 17, for which

$\mathbf{R_5}$ and $\mathbf{R_6}$ represent together with the nitrogen atom a double bind –N=CHAr, wherein **Ar** is an aryl group containing from 1 to 3 substituents ~~and~~ with at least one of which being an hydroxyl group~~, Ar being preferably a phenyl group~~,

$\mathbf{R_1}$ and $\mathbf{R_3}$, or $\mathbf{R_2}$ and $\mathbf{R_4}$, represent an hydrogen atom, whereas $\mathbf{R_2}$ and $\mathbf{R_4}$, or $\mathbf{R_1}$ and $\mathbf{R_3}$, respectively, are, independently ~~ones of the others~~ selected from, linear or branched alkyl groups of 1 to 6 carbon atoms, preferably a *tert*-butyl group or form together a carbon cycle of 5 or 6 carbon atoms or a bicyclic ring system of 9 or 10 carbon atoms wherein one of the cycles may be aromatic~~, preferably indanyl~~.

22. (Currently Amended) A method according to ~~any of claims 13 to 19, characterized in that~~ claim 17, wherein a catalyst prepared from vanadium sulphate and a ligand derived from an amino acid or an amino-ester respectively of formulae (V) or (VI), as defined in claim 17 ~~or 18~~, are used.

23. (Currently Amended) A method according to ~~any of claims 1 to 21, characterized in that~~ claim 1, wherein the ligand is 2,4-di-*tert*-butyl-6-[1-*R*-hydroxymethyl-2-methyl-propylimino)-methyl]-phenol, le 2,4-di-*tert*-butyl-6-[1-*S*-hydroxymethyl-2-methyl-propylimino)-methyl]-phenol, le (1*R*, 2*S*)-1-[2-hydroxy-3,5-di-*tert*-butyl-benzylidene)-amino]-indan-2-ol or (1*S*, 2*R*)-1-[2-hydroxy-3,5-di-*tert*-butyl-benzylidene)-amino]-indan-2-ol.

24. (Currently Amended) A method according to claim 23, ~~characterized in that~~ wherein the ligand is in an acetonitrile solution.

25. (Currently Amended) A method according to ~~claim 23 or 24, characterized in that~~ claim 23, wherein an enantioselective oxidation of 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]thio] imidazo [4,5-b]pyridine is carried out to obtain (-)-5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl] imidazo [4,5-b] pyridine by using a vanadium-based catalyst associated with a ligand consisting of 2,4-di-*tert*-butyl-6-[1-*R*-hydroxymethyl-2-methyl-propylimino)-methyl]-phenol or (1*R*, 2*S*)-1-[2-hydroxy-3,5-di-*tert*-butyl-benzylidene)-amino]-indan-2-ol in an acetonitrile solution, whilst the sulphide is in a methylene chloride or acetone or N-methylpyrrolidinone solution, respectively.

26. (Currently Amended) A method according to ~~any of claims 10 or 11, characterized in that~~ claim 10, wherein the catalyst is a tungsten derivative and the ligand is hydroquinine 2,5-diphenyl-4,6-pyridinyl diether $(DHQ)_2$-PYR or hydroquinidine 2,5-diphenyl-4,6-pyridinyl diether $(DHQD)_2$-PYR.

27. (Currently Amended) A method according to claim 26, ~~characterized in that~~ wherein an eniantoselective oxidation of 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]thio] imidazo [4,5-b] pyridine is carried out by hydrogen peroxide in the presence of tungsten trioxide and of $(DHQD)_2$-PYR in order to obtain the (-)-5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl) methyl] sulfinyl] imidazo [4,5-b] pyridine.

28. (Currently Amended) A method according to ~~any of the preceding claims characterized in that~~ claim 1, wherein the oxidation reaction is carried out in a solvent, in a neutral or weakly basic medium.

29. (Currently Amended) A method according to claim 28, ~~characterized in that~~ wherein the solvent is a mixture of solvents ~~consisting of~~ comprising a sulphide specific solvent and a ligand specific solvent selected from methanol, tetrahydrofuran, dichloromethane, acetonitrile, toluene, acetone, chloroform, dimethylformamide and N-methylpyrrolidinone, alone or in admixture, and the base is a tertiary amine selected from pyridine, di-isopropylethylamine and triethylamine.

30. (New) A method according to claim 13 wherein **Ar** is substituted by 1 to 3 hydroxyl groups.